

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte OLEG POPOV and JAKOB MAYA

Appeal No. 1998-2148
Application 08/674,783

ON BRIEF

Before JERRY SMITH, FLEMING, and HECKER, ***Administrative Patent Judges***.

HECKER, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 4 and 6 through 9. Claim 5 has been canceled, and claim 10 has been indicated as being allowable.

The invention relates to an inductively coupled

fluorescent lamp. In particular, referring to Figure 1, coil 1 is disposed within a reentrant cavity 2 within a bulbous envelope 7. Coil 1 is also disposed within a cylinder 14 of thermally conductive metal. Coil 1 has 7 to 11 turns, with a pitch of 1 mm to 10 mm, a wire diameter of 0.5 mm to 3 mm, and a height to diameter ratio of 0.5 to 5. Thermally conductive cylinder 14 is attached to, and transfers heat to, fixture 15.

Representative independent claim 1 is reproduced as follows:

1. An electrodeless fluorescent RF lamp and fixture comprising:

a bulbous lamp envelope and a reentrant cavity disposed in said envelope, a rare gas and vaporizable metal fill in said envelope and a phosphor coating on the interior thereof for generation of visible light;

a lamp base disposed outside said envelope and said fixture being attached to said lamp base;

a cylinder formed of a light thermally-conductive metal disposed in said reentrant cavity, said cylinder being attached to said lamp base;

an induction coil and radio frequency excitation generating means associated with said coil for the generation of a plasma to produce radiation to excite said phosphor coating, said coil and said means being situated outside said envelope and fitted within said cavity and within said

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cylinder, at least a major portion of said coil having a pitch between about 1 and 10 mm and a wire diameter between about 0.5 and 3.0 mm.

The reference relied on by the Examiner is as follows:

Postma et al. (Postma)	4,727,295	Feb. 23,
1988		

Claims 1 through 4 and 6 through 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Postma.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the brief, reply brief and the answer for the details thereof.

OPINION

After a careful review of the evidence before us, we agree with the Examiner that claims 1 through 4 and 6 through 9 are properly rejected under 35 U.S.C. § 103.

At the outset, we note that Appellants have indicated on page 10 of the brief the claims stand separately, which is "supported by the arguments set forth in Section VIII hereof." The Examiner contends that the claims have not been argued separately (answer-page 3). An inspection of Section VIII of the brief confirms the Examiner's contention.

However, Appellants point out that a CHART, appended to the brief, compares each claim individually to the applied reference (reply brief-page 1). Placing substance over form, we will consider the appended CHART as arguments in support of the claims standing separately.

The Examiner reasons that Postma discloses the claimed invention except for the range of pitch and wire diameter claimed. The Examiner contends that these parameters depend on the appropriate current and inductance needed for a particular sized lamp, and the optimum or workable range can be determined by routine skill in the art (answer-pages 4 and 5).

Appellants argue that Postma's protuberance 3 is not equivalent to Appellants' reentrant cavity 2 because protuberance 3 flares out at the bottom and it is uncertain if there is a seal between the bottom of the flare on protuberance 3 and the envelope. (Brief-page 11.)

These arguments fail at the outset because they are not based on limitations appearing in the claims. Thus, the flare of protuberance 3 and its being sealed to the envelope

are immaterial as to its equivalence to reentrant cavity 2.
See *In re Self*, 671 F.2d 1344, 1350, 213 USPQ 1, 5 ((CCPA
1982)).

Appellants further argue that Postma's cylinder 11
has no substantial thermal connection to base 10 or any
fixture, and that "Postma et al. simply does not remove heat
in the way Appellants remove heat." (Brief-pages 11 and 12.)

The Examiner responds "The cylinder being a light
and thermally-conductive cylinder is the only requirement of
the claimed invention..." (answer-page 5).

We agree with the Examiner. Claims 1 and 8 state:

a cylinder formed of a light thermally-conductive
metal disposed in said reentrant cavity, said
cylinder being attached to said lamp base

We can find no claim limitation requiring the cylinder to have
a substantial **thermal connection** to anything. Postma's
cylinder is "a thin-walled cylindrical metal body" (column 1,
line 40), "preferably in the form of a foil" (column 2, line
41), which may be a copper foil (column 3, line 26). Postma's

cylinder clearly meets the language of the claims, and is even of the same material (copper) disclosed by Appellants (specification, page 5, line 1). With regard to Postma's cylinder being "attached to said lamp base" (brief-page 13), we note that cylinder 11 is connected (i.e., attached) to lamp cap 10 through conductor 12 (column 3, lines 22-24).

Appellants argue that their claimed wire diameter, 0.5 mm to 3.0 mm, is twice as thick as Postma's 0.25 mm at their low end, and six times thicker¹ at their high end. Appellants contend Postma's wire diameter is not "very close" as alleged by the Examiner (brief-page 13).

The Examiner responds that "very close" means Appellants' and Postma's wire are of the same order of magnitude, both measured in millimeters (answer-page 7). In support of the Examiner's view, we note that Appellants' own range represents a factor of 6 between the low and high end of their range. Thus, Postma's factor of 2 at the low end sheds a realistic light on "very close" when considering Appellants'

¹By our calculation Appellants' wire is actually 12 times thicker at their high end.

factor of 6 from their low to high end. We have considered these factors since Appellants presented them in their arguments. However, we base our decision on the Examiner's position that the claimed wire size is a result of one of ordinary skill in the art obtaining the optimum size when designing this type of lamp for a desired operating voltage, frequency, etc. Although Appellants' claims recite a wire size of 0.5 mm to 3.0 mm, their specification only recites 2.0 mm (specification, page 6, line 3). In conjunction with this, Appellants have chosen an operating frequency of 13.56 MHZ (specification, page 6, line 30). Postma operates at 2.65 MHZ (column 3, line 55). With such a wide variation available in the parameters that will produce an operating lamp, we agree with the Examiner that it would have been obvious to one of ordinary skill in the art, based on the teachings of Postma, to have constructed a lamp using wire within Appellants' claimed range. This is especially so since Appellants have neither disclosed nor alleged anything critical about their wire range.

On page 14 of their brief Appellants insist that the

Examiner consider comments made by another Examiner regarding a different application. We are unaware of any requirement for the Examiner to do so. Each patent application is treated separately, and the relevance of a particular prior art reference to different claims can vary vastly. A glance at the other Examiner's comments leads one to believe that the other application was actually claiming some sort of thermally conductive path. As noted supra, no such path or heat removal is recited in Appellants' claims. We agree with the Examiner that "Another examiner's work has no bearing on whether or not the present application is allowable or not. It is irrelevant." (Answer-page 6.)

Turning to Appellants' appended CHART, we will address the notes made with regard to each claim.

Claim 1

Appellants object to their reentrant cavity being equivalent to Postma's protuberance 3. We have addressed this point supra, and find no **claimed** distinction.

Appellants note their fixture is disclosed as being

attached to their lamp base differently than in Postma. We find that any disclosed difference is not reflected in Appellants' claim.

Appellants object to Postma's cylinder of copper foil 11 being **glued** on the inside of protuberance 3. We find nothing in Appellants' claim to be contrary to Postma's gluing. Appellants complain that Postma's cylinder 11 is not attached to a fixture, especially for heat transference. We have considered this argument supra, found the required attachment, and noted that heat transference is not required by the claim language.

Appellants indicate that Postma makes no disclosure of the pitch of the coil. We note that Postma's coil has 12 turns (column 3, line 52) and that the coil is 12 mm long (column 3, lines 61-63). This translates to a pitch of 1.0 mm which is within Appellants' claimed range of 1 to 10 mm.

Appellants indicate that Postma makes no disclosure of the wire diameter. As discussed supra, Postma discloses a diameter of 0.25 mm (column 3, line 52) and reasons were given as to how Appellants' 0.5 to 3.0 mm was considered obvious in

view thereof.

Claim 2

Appellants indicate that Postma is silent about the shape of the plasma. Appellants claim their coil generates a cylindrical plasma. This is so because Appellants' coil is cylindrical. Since Postma's coil is also cylindrical, Postma inherently generates a cylindrical plasma.

Claim 3

Appellants note that Postma makes no disclosure concerning either the height of the coil or the diameter of the coil and especially the **ratio** of the height of the coil relative to the diameter of the coil ($H_{\text{coil}}/D_{\text{coil}}$). Appellants' claim recites a height to diameter coil ratio of "between about 0.5 and 5." Postma discloses a coil height of 12 mm (column 3, lines 61-63). Postma's magnetic core is about 8 mm in diameter (column 3, line 50) and the coil 5 is wound around the magnetic core and thus must be slightly larger in diameter than 8 mm.

Consequently, the ratio of Postma's coil height to diameter is 12/slightly more than 8 mm. This translates to **about** 1.5,

which is well within Appellants' **about** 0.5 to 5.

Claim 4

Appellants contend that Postma makes no disclosure concerning the spacing of the turns of the coil, but it appears from the drawing that the coil turns 5 touch each other. As noted supra, Postma's coil is 12 mm in length and has 12 turns. This allows 1.0 mm per turn. With a wire size of 0.25 mm, we note that there is approximately 0.75 mm between each turn. We therefore find that Postma's coil turns do not touch each other.

Claim 6²

Appellants contend that Postma makes no disclosure concerning wire diameter. As noted supra, Postma discloses a wire diameter of 0.25 mm.

Claim 7

² We note that "between about 5 and 12 " turns is recited here while the specification only recites "between 7 and 11" turns (page 6, line 4). We also note that the wire diameter of "0.5 and 3 mm" and the pitch of "1 and 10 mm" is redundant and already recited in claim 1.

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Appellants contend that Postma does not disclose a "means to remove heat". We agree with the Examiner's explanation on pages 5 and 6 of the answer, wherein it states:

The thermally-conductive cylinder of Postma is not a perfect insulator and must dissipate heat. Again dissipating heat to the outside thereof is simply not

an issue with the claimed invention, but even if it were Postma's device must do so (Note the connection of such to the lead in).

Claims 8 and 9

Appellants note the same shortcomings of Postma as alleged with respect to claims 1 through 4, 6 and 7. We see no need to repeat the analysis, and find that Postma does make obvious all the limitations of claims 8 and 9, as noted with respect to claims 1 through 4, 6 and 7.

We are not required to raise and/or consider issues not argued by Appellants. As stated by our reviewing court in ***In re Baxter Travenol Labs.***, 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991), "[i]t is not the function of this court to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art." 37 CFR

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1.192(a) as amended at 60 Fed. Reg. 14518 (Mar. 17, 1995), which was controlling at the time of Appellants' filing the brief, states as follows:

The brief . . . must set forth the authorities and arguments on which the appellant will rely to maintain the appeal. Any arguments or authorities not included in the brief may be refused consideration by the Board of [P]atent Appeals and Interferences, unless good cause is shown.

Also, 37 CFR § 1.192(c)(8)(iv) states:

For each rejection under 35 U.S.C. 103, the argument shall specify the errors in the rejection and, if appropriate, the specific limitations in the rejected claims which are not described in the prior art relied on in the rejection, and shall explain how such limitations render the claimed subject matter unobvious over the prior art. If the rejection is based upon a combination of references, the argument shall explain why the references, taken as a whole, do not suggest the claimed subject matter, and shall include, as may be appropriate, an explanation of why features disclosed in one reference may not properly be combined with features disclosed in another reference. A general argument that all the limitations are not described in a single reference does not satisfy the requirements of this paragraph.

Thus, 37 CFR § 1.192 provides that just as the court is not

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under any burden to raise and/or consider such issues, this board is also not under any greater burden.

In view of the foregoing, the decision of the Examiner rejecting claims 1 through 4 and 6 through 9 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

JERRY SMITH)
Administrative Patent Judge)

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